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Valvular Heart Disease

PERI-PROCEDURAL CLINICAL PREDICTORS OF ATRIO VENTRICULAR BLOCK WITH PERMANENT PACING FOLLOWING TRANS CATHETER AORTIC VALVE IMPLANTATION

ACC Moderated Poster Contributions
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Background: Preventive pacing after TAVI (trans-catheter aortic valve implantation) exposes to the risk of severe complications, such as cardiac perforation. This can be avoided by limiting temporal lead placement in high risk patients. The purpose of this study is to identify clinical and electrical factors of permanent pacing.

Methods: The study included 79 patients (82±17 years, Euroscore=23±10 %) free of permanent pacing before and immediately after TAVI procedure. Permanent pace maker implantation was performed when complete atrioventricular block was observed at day 3 after TAVI procedure. Prosthesis-annular length and QRS duration before and immediately after TAVI implantation were compared to the need of permanent pacing.

Results: The TAVI procedure was successfully performed in all and permanent pace maker implantation was required in 22 patients (26%) because of a complete AV block occurring during the 3 days after TAVI procedure. Patients requiring a permanent pacing had greater prosthesis-annular length (12±4mm vs. 9±5mm, p=0.03) and QRS duration after implantation (131±25ms vs. 155±17 ms, p=0.0004), while no difference was observed for baseline QRS duration. QRS enlargement correlated with prosthesis annular length (r=0.4, p=0.01). Interestingly, all patients with QRS duration after implantation ≤ 128ms (n=21) were free of complete AV block, while permanent pacing was required in 38 % (21/55) of patients with a QRS duration after implantation > 128 ms (n=55).

Conclusions: In patients with a limited QRS duration (<128ms) after TAVI procedure, the risk of complete block seems limited, while QRS enlargement>128ms appears associated to the need of permanent pacing.